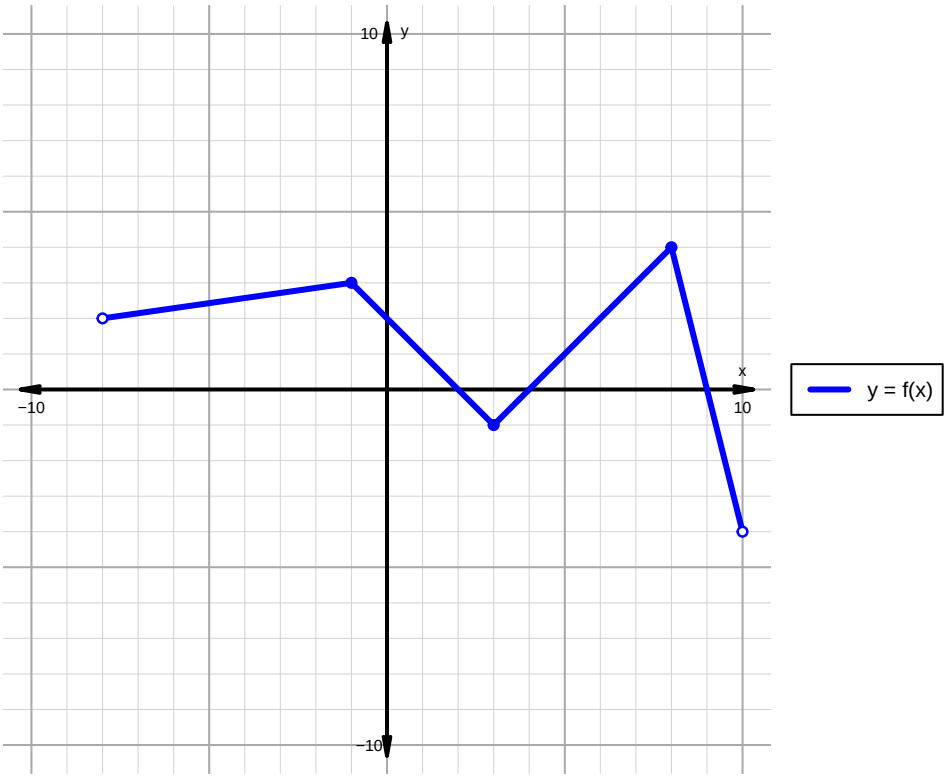
Name: Date:

Intervals, Transformations, and Slope Solution (version 61)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-8, 2) \cup (4, 9)$
Negative	$(2, 4) \cup (9, 10)$
Increasing	$(-8, -1) \cup (3, 8)$
Decreasing	$(-1, 3) \cup (8, 10)$
Domain	$(-8, 10)$
Range	$(-4, 4)$

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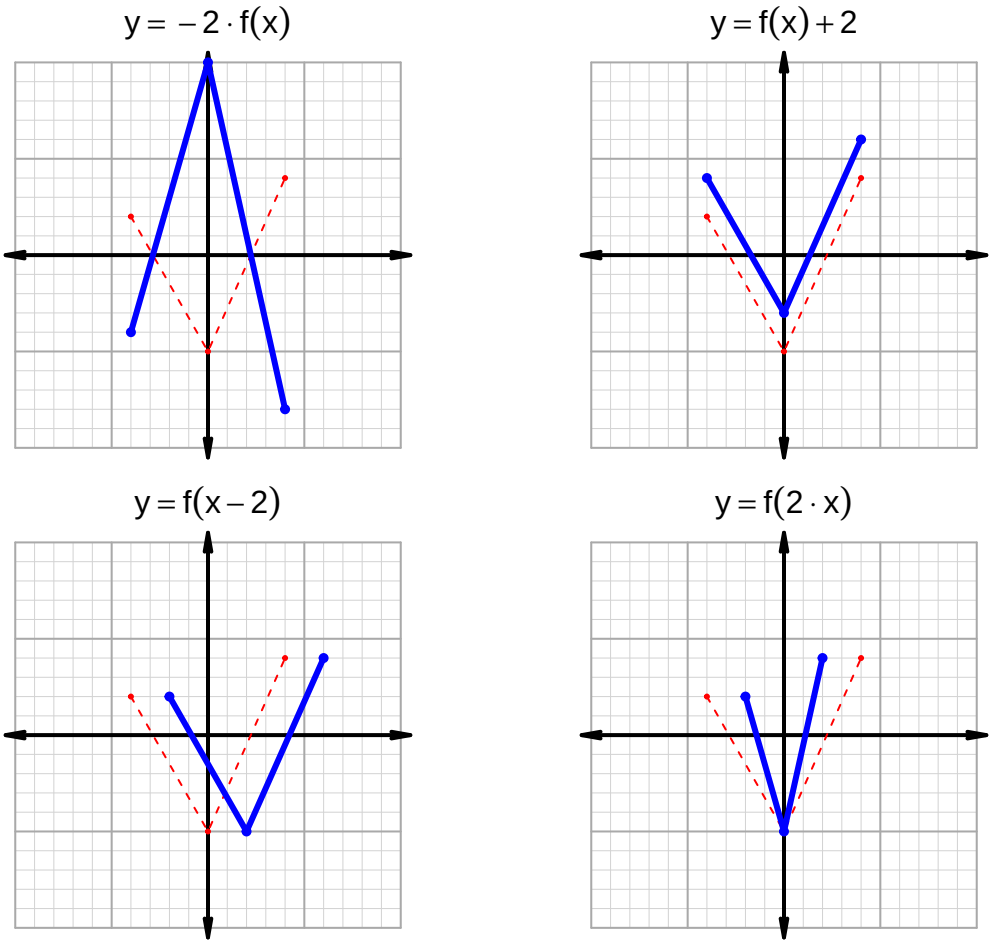
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 82$ and $x_2 = 97$. Express your answer as a reduced fraction.

x	$g(x)$
22	97
40	82
82	22
97	40

$\frac{g(97)-g(82)}{97-82} = \frac{40-22}{97-82} = \frac{18}{15}$

The greatest common factor of 18 and 15 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{6}{5}$$